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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,678	04/19/2001	Augustus K. Uht	URI.5474	8152

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER
LI, AIMEE J

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 December 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-12</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-12</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. <u>15 March 2006</u>.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-8 and new claims 9-12 have been considered. New claims 9-12 have been

added as per Applicant's request.

Papers Submitted

2.   It is hereby acknowledged that the following papers have been received and placed of

record in the file: Amendment as filed 29 December 2005 and Extension of Time for 3 months

as received on 29 December 2005.

Information Disclosure Statement

3.   Applicant's comments indicate that a supplemental IDS was filed on 29 December 2005,

however, none could be located in the file of record. Accordingly, the Examiner could not

consider the documents.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

5.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing

to particularly point out and distinctly claim the subject matter which applicant regards as the

invention. Claim 1 recites in lines 2-4 "said machine code comprising". It is unclear how

machine code can comprise predicate assignment and use means as well as itself after it has been

produced by compiling the code and then executing itself without recompiling.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klauser et al., *Dynamic Hammock Predication for Non-predicated Instruction Set Architectures* (herein referred to as Klauser) in view of Microsoft Press's Computer Dictionary: The Comprehensive Standard for Business, School, Library, and Home ©1994 (herein referred to as Microsoft).

8.   Regarding claims 1, 5, and 9, taking claim 1 as exemplary, Klauser has taught a computing device that provides hardware conversion of control flow in machine code that is executable by said computing device, said machine code comprising:

    a.   Predicate assignment means for detecting the beginning and end of a branch domain of said machine code (Klauser Col.3 lines 13-36 and Col.4 lines 12-20), operation of said predicate assignment means being invisible to instruction set architecture and thereby invisible to a user (Klauser Col.2 lines 3-5),

    b.   Predicate use means for realizing the beginning and the end of said branch domain at execution time (Klauser Col.2 lines 5-10), and for selectively enabling and disabling machine code within said branch domain during program execution (Klauser Col.4 lines 12-28), operation of said predicate use means being invisible to instruction set architecture and thereby invisible to a user (Klauser Col.2 lines 3-5),

    c.   Said machine code being produced by compiling source code which contains at least one conditional branch instruction (Klauser Col.2 lines 3-5).

9.   Klauser has not explicitly taught said machine code being executable by a target

computing device different from said computing device, said machine code thereby being

executable by said target computing device and by said computing device without recompiling.

Microsoft has taught downward compatibility, also known as backward compatibility, allows

program execution with other systems without recompiling the program (Microsoft page 133). A

person of ordinary skill in the art at the time the invention was made would have recognized that

backward compatibility reduces cost by eliminating the need to edit and recompile older

programs so that they can be run on a newer system. Therefore, it would have been obvious to a

person of ordinary skill in the art at the time the invention was made to incorporate the backward

compatibility of Microsoft in the device of Klauser to reduce cost. For more information on

backward compatibility, please see the provided definitions and documentation.

10.   Claims 5 and 9 are nearly identical to c l aim 1, differing in the limitations of claim 5

being comprised within a method and without the limitation in bullet (c) and the limitations of

claim 9 being comprised within a data processor with logic, but encompassing the same scope as

claim 1. Therefore, claims 5 and 9 are rejected for the same reasons as claim 1.

11.   Regarding claims 2, 6, and 10, taking claim 2 as exemplary, Klauser has taught the

computing device according to claim 1, wherein said predicate assignment means includes a

tracking buffer (see "rename table" of Fig.3) comprising dedicated storage to store branch

information in order to make said predicate assignments (see Col.5 lines 1-26). Here, the rename

table contains multiple entries for every register, which are used to make predicate assignments.

12.   Claims 6 and 10 are nearly identical to claim 2, differing in its parent claim, but

encompassing the same scope as claim 2. Therefore, claims 6 and 10 are rejected for the same

reasons as claim 2.

13.   Regarding claims 3 and 7, taking claim 3 as exemplary, Klauser has taught the computing

device according to claim 1, wherein said predicate assignment means is operative to assign a

canceling predicate to said branch domain in order to delineate said branch domain (see Col. 7

lines 8-28).

14.   Claim 7 is nearly identical to claim 3, differing in its parent claim, but encompassing the

same scope as claim 3. Therefore, claim 7 is rejected for the same reasons as claim 3.Regarding

claims 4, 8, and 12, taking claim 4 as exemplary, Klauser has taught the computing device

according to claim 3, wherein said predicate use means further includes dedicated registers for

said machine code in order to effect arbitrary control flow, said branch domain including at least

a disjoint branch domain, a nested branch domain, overlapped branch domains, or a combination

of said branch domains (see Col.9, Section 4.1).

15.   Claims 8 and 12 are nearly identical to claim 4, differing in its parent claim, but

encompassing the same scope as claim 4. Therefore, claims 8 and 12 are rejected for the same

reasons as claim 4.

16.   Regarding claim 11, Klauser has taught the data processor of claim 9 wherein said

domain information comprises an address of a predicate that corresponds to a branch, an address

of a canceling predicate that corresponds to said branch, and a target address of said branch (see

Col. 7 lines 8-28).

Response to Arguments

17.   Applicant's arguments with respect to claims 1-12 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

18.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

19.   A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

20.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Aimee J. Li whose telephone number is (571) 272-4169. The

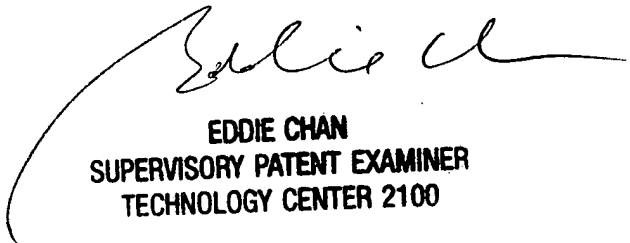examiner can normally be reached on M-T 7:00am-4:30pm.

21.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

22.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJL
Aimee J. Li
15 March 2006

EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100